

WH

Work Order ID 77067

November-25-11 8:35:40 AM

77067

Page 1

Item ID: D206-642-151

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Replacement Skidtube

Start Date: 25/11/2011 Start Qty: 1.00

1

Cust Item ID:

Required Date: 09/12/2011 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: M.C.J

Date: 11/11/25

Tooling:

Date:

Run Start *NR1*

QC:

Date:

SPC (Y/N):

Date:

Stop *NR2*

| Sequence ID/ Work Center ID | Operation Description | Set Up/ Run Hours | Tool ID | Tool # | Plan Code | Accept Qty | Reject Qty | Reject Number | Insp. Stamp |
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|

Draw Nbr

Revision Nbr

D3804

A

IIN-D206-642

O

100

0.00

100

DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy bluefile & type labels per PPP D206-642-151

CHG001

N/A CK 12/01/02

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
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NOTE: Date & initial all entries

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Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

| Sequence ID/ Work Center ID | Operation Description | Set Up/ Run Hours | Tool ID | Tool # | Plan Code | Accept Qty | Reject Qty | Reject Number | Insp. Stamp |
|--------------------------------|--|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
| 110 | | 0.00 | | | | | | | |
| *110* | Skidtubes | | | | | | | | |
| Skidtubes | Memo | 0.00 | | | | | | | |
| Skidtubes | 1-Deburr Fwd edge of tube | | | | | | | | |
| | 2- Remove ridge on inside of Fwd edge of tube as per Dwg D3804 | | | | | | | | |
| | 3-Weld Fwd Cap as per Dwg D3804. Use aluminum rod. Grind D2647 to fit as required. | | | | | | | | |
| | Pick: | | | | | | | | |
| | Qty Part Number DescriptionBatch | | | | | | | | |
| | A/R Aluminum Rod M 117889 | | | | | | | | |
| | 4-Grind weld flush to cap on top surface only. | | | | | | | | |
| | 5-Cut Aft end as per dwg D3804 from front of tube and Deburr | | | | | | | | |
| | 6-Remove inner indexing ridge on Aft end of skidtube as per Dwg D3804 | | | | | | | | |
| | 7-Open holes for Aft end cap as per Dwg D3804 with #30 Drill Bit using DT8025. | | | | | | | | |
| | 8-Drill pilot holes using Dt8166 & DT8169D & DT9771. | | | | | | | | |
| | 9-Locate DT8732 from inner Aft saddle hole & 3rd crossbolt hole. Insert D3286-1 doubler using DT8732 & D206-642-241-T1, then locating doubler off of 3/16" holes, cleco DT8732 & doubler leaving DT8732 for added support. | | | | | | | | |
| | 10- Drill D3286-1 doubler rivet holes in tube using # 30 drill, spot drilling doubler at the same time. | | | | | | | | |

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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***Stop ***NR2***

| Sequence ID/ Work Center ID | Operation Description | Set Up/ Run Hours | Tool ID | Tool # | Plan Code | Accept Qty | Reject Qty | Reject Number | Insp. Stamp |
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|

11-Working from the center out, drill # 30 holes into D3286-1 doubler. Cleco each hole as it is being drilled. Verify angle of holes to accommodate rivet heads.

12-Remove 3/16" cleco's only and open GHW holes to Ø0.500" as per Dwg D3804

13-Remove D3286-1 doublers, identify orientation, deburr, then attach them to the workorder

14-Remove indexing edge using DT8741 as per Dwg D3804

15-C'sink GHW rivet holes as per Dwg D3804

16- Open Aft cap hole #6.
****no wearplate holes for this skidtube****

17-Deburr tube and blow out chips from inside the tube

120

120

QC

Quality Control

QC6- Inspect dimensions to drawing

0.00

Memo

0.00

DC
*11/12/06**DC*
*11/12/06**S*
11/12/06

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|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|

140 Chemical Conversion Coat per QSI005 4.1

0.00

140

HandFinish

Memo

0.00

Hand Finishing

DL 11/12/06

150 QC3- Inspect Part Finish

0.00

150

QC

Memo

0.00

Quality Control

SAD 11-12-06

160 Skidtubes

0.00

160

Skidtubes

Memo

0.00

Skidtubes

1-Open holes to finished size as per Dwg D3804, (without cutting fluid)

2-C'sink crossbolt spacer holes as per Dwg D3804(without cutting fluid)

3-Deburr and blow out all chips from inside the tube

DL 11/12/06

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Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

170

QC6- Inspect dimensions to drawing

0.00

170

QC

Memo

0.00

Quality Control

180

0.00

180

Skidtubes

Skidtubes

Memo

0.00

Skidtubes

1-Locate, install and rivet doublers as per Dwg D3804. Micro-shave rivets as required *DC 11/12/06*

2-Bond D2654-1 web in place as per QSI 015. Ensure holes line up. Allow 12

Hrs. cure time before cutting

Start Date: *11/12/06* Time: *6:15*Finish Date: *11-12-07* Time: *10:30*

Pick:

Qty Part Number Description Batch

A/RSikaflex-291 *119 399*Sikaflex expire date: *12/08/13**DC 11/12/06*

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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

190

QC5- Inspect part completeness to step on W/O

0.00

190

QC

Memo

0.00

Quality Control

1 0 251112-07

| W/O: | | WORK ORDER CHANGES | | | | | |
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Approvals:

Process Plan:

Date:

Tooling:

Date:

Run

Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

200

0.00

200

Skidtubes

0.00

Skidtubes

Skidtubes

Memo

1-remove alodine from around hole and prepare for welding

2-Prep per QSI 005 and Insert D2649 crossbolt spacers. Weld as per QSI 004 and Dwg D3804. Remember to back drill each hole to 0.25" before welding the other side. Use aluminum rod.

Pick:

QtyPart NumberDescriptionBatch

A/RAluminum Rod M117889

3-Grind welds flush as per Dwg D3804.

4-Using DT8733, insert (2) D3286-3 spacers as per QSI 004 and Dwg D3804. Remember to back drill each hole to 0.402" before welding other side. Use SS rod as required.

A/RSS Rod NONE

5-Counterbore 5/16" x 0.750" deep except 7th hole from Aft end as per Dwg D3804. Deburr

BE 11-12-07

BB 11/12/07

BE 11-12-08

DD 11-12-8

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Run Start ***NR1***

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Stop ***NR2***

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|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|

230 QC5- Inspect part completeness to step on W/O

0.00

230

QC

Memo

0.00

Quality Control

240 Pressure Wash per QSI005 4.3

0.00

240

HandFinish

Memo

0.00

Hand Finishing

250 White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00

250

Powdercoat

Memo

START TIME:

OVEN TEMPERATURE:

FINISH TIME:

8=30
3200 F
9=00

Powder Coating

m 11/11/10 480

IXY m-p 11/12/10

IXY m-p 11/12/12

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Stop ***NR2***

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|--------------------------------|--|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
| 260 | QC3- Inspect Part Finish | 0.00 | | | | | | | |
| *260* | | | | | | | | | |
| QC | Memo | 0.00 | | | | 1611 | 4 | 14 | 11/12/13 |
| Quality Control | | | | | | | | | |
| 270 | | 0.00 | | | | | | | |
| *270* | HandFinishing | | | | | | | | |
| HandFinish | Memo | 0.00 | | | | 1611 | 4 | 14 | 11/12/13 |
| Hand Finishing | 1-Install D2651-3 O-Rings on D2651-1 plugs with Petroleum Jelly and install plugs as per Dwg D3804. Clean excess adhesive. | | | | | | | | |

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|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|

280

0.00

280

HandFinishing

HandFinish

Memo

0.00

Hand Finishing

✓ 1-Install D2646 Aft Cap and seal with Sikaflex. Clean excess adhesive
A/RSikaflex-291 11/19/11
Sikaflex expire date: 12/01

✓ 2- Install wearplate as per dwg

2-Wing Walk as per Dwg D3804 and QSI 005 4.4
Batch: 11/19/11

11/11/11 11/12/11

290

QC3- Inspect Part Finish

0.00

290

QC

Memo

0.00

Quality Control

8 11/12/11

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NOTE: Date & initial all entries

Work Order ID 77067***77067***

Page 12

November-25-11 8:35:40 AM

Item ID: D206-642-151

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Replacement Skidtube

Start Date: 25/11/2011 Start Qty: 1.00

1

Cust Item ID:

Required Date: 09/12/2011 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

| Sequence ID/ Work Center ID | Operation Description | Set Up/ Run Hours | Tool ID | Tool # | Plan Code | Accept Qty | Reject Qty | Reject Number | Insp. Stamp |
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|

300 QC5- Inspect part completeness to step on W/O

0.00

300

QC

Memo

0.00

Quality Control

310

310

Packaging

Packaging

Packaging

Memo

Identify and pack for shipping as per PPP D206-642-151

Location: _____

PPP Rev: _____

0.00

0.00

320

320

QC

Quality Control

QC21- Final Inspection - Work Order Release

0.00

Memo

0.00

M.L.J 11/12/29
(1)

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

NOTE: Date & initial all entries

Picklist Print

Page 1

November-25-11 8:35:44 AM

Work Order ID: 77067

77067

Parent Item: D206-642-151

D206-642-151

Parent Item Name: Replacement Skidtube

Start Date: 25/11/2011

Required Date: 09/12/2011

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP REV:A 10.12.08 PER IIN REV.N DD VERF:EC
REV:B 11.09.16 PER IIN REV.O DD VERF:EC

IPP

| Component Item ID/ Item Name | Replacement Item ID | Mfg/ Purch | Bin Item | Primary Location | Last Location | Route Seq ID | Unit of Measure | Qty on Hand | Qty per Kit | Total Qty | Qty Issued | Date Issued | Status |
|---------------------------------|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|-------------|--------------|---------------|----------------|--------|
|---------------------------------|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|-------------|--------------|---------------|----------------|--------|

| | | | | | | | | | | | | | |
|-------|--|--------------|----|--|--|-----|------|---------|---|---|--|--|--|
| D2620 | | Manufactured | No | | | 110 | Each | 19.0000 | 1 | 1 | | | |
|-------|--|--------------|----|--|--|-----|------|---------|---|---|--|--|--|

D2620

Skidtube, 206 Skidtube

**

SAD 11-11-29

Location

Loc Qty

Loc Code

LG

19

71616

3

71617

6

74459

2

74460

3

74461

5

375470

①

D2647

Manufactured No

110

Each

237.0000

1

1

D2647

Cap

**

BE 11-12-01

Location

Loc Qty

Loc Code

LG002

237

55352

3

73826

124

75482

110

1

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

NOTE: Date & initial all entries

Picklist Print

November-25-11 8:35:44 AM

Page 2

Work Order ID: 77067

Parent Item: D206-642-151

Parent Item Name: Replacement Skidtube

77067

D206-642-151

Start Date: 25/11/2011

Required Date: 09/12/2011

Start Qty: 1.00

Required Qty: 1.00

CR3212-4-04

Purchased

No

180

Each

15,285.00

52

52

CR3212-4-04

Cherry Rivet

**

PC 11/12/06

Location

Loc Qty

Loc Code

ST331

5295

116471

78

117816

3

118686

1

118840

16

119017

5187

119075

10

st510

9990

119075

9990

52

D2654-1

Manufactured

No

180

Each

14.0000

1

1

D2654-1

Web

**

PC 11/12/06

Location

Loc Qty

Loc Code

LG

14

73794

1

73799

1

75474

6

75475

1

75476

4

75477

1

D3286-1

Manufactured

No

180

Each

165.0000

2

2

D3286-1

Doubler

**

PC 11/12/06

Location

Loc Qty

Loc Code

LG002

165

74111

1

74441

4

74872

49

75484

111

2

November-25-11 8:35:45 AM

Shop Packet Print

Page 2

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
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NOTE: Date & initial all entries

Picklist Print

November-25-11 8:35:45 AM

Page 3

Work Order ID: 77067

77067

Parent Item: D206-642-151

D206-642-151

Parent Item Name: Replacement Skidtube

Start Date: 25/11/2011

Required Date: 09/12/2011

Start Qty: 1.00

Required Qty: 1.00

D2649

Manufactured No

200

Each

176.0000

19

19

D2649

Cross Bolt Spacer

**

Location

Loc Qty

Loc Code

LG

22

68224

2

71355

2

72704

2

72841

11

73855

5

LG001

154

65317

1

68507

11

73390

8

73857

21

73858

109

73860

4

D3286-3

Manufactured No

200

Each

121.0000

2

2

D3286-3

Spacer

**

Location

Loc Qty

Loc Code

LG

40

74870

40

LG001

1

74117

1

LG002

80

75483

80

31-11-07
B 73859 *19

BE11-12-08

2

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
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NOTE: Date & initial all entries

Picklist Print

November-25-11 8:35:45 AM

Page 4

Work Order ID: 77067

77067

Parent Item: D206-642-151

D206-642-151

Parent Item Name: Replacement Skidtube

Start Date: 25/11/2011

Required Date: 09/12/2011

Start Qty: 1.00

Required Qty: 1.00

D2680-041

Manufactured No

210

Each

30.0000

1

1

D2680-041

Nut Plate

**

DP 11-12-8

Location

Loc Qty

Loc Code

LG

1

73334

1

ST020

29

73854

29

CR3212-4-03

Purchased

No

210

Each

1,870.000

2

2

CR3212-4-03

Cherry Rivet

**

DP 11-12-8

Location

Loc Qty

Loc Code

FB

2

110139

2

ST331

1868

114859

868

119017

1000

AN960JD416

NAS1149D0463J

Purchased

No

210

Each

0.0000

1

1

AN960JD416

Washer

**

1118384 (x) 11/12/13

CCR264SS3-3

Purchased

No

210

Each

1,113.000

2

2

CCR264SS3-3

Cherry Rivet

**

DP 11-12-8

Location

Loc Qty

Loc Code

FP

2

113973

2

ST311

159

117849

159

ST317

952

119017

952

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
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NOTE: Date & initial all entries

Picklist Print

November-25-11 8:35:45 AM

Page 5

Work Order ID: 77067

77067

Parent Item: D206-642-151

D206-642-151

Parent Item Name: Replacement Skidtube

Start Date: 25/11/2011

Required Date: 09/12/2011

Start Qty: 1.00

Required Qty: 1.00

MS27039-4-06

Purchased

No

210

Each

378.0000

1

1

MS27039-4-06

Screw

**

u 11/12/13

Location

Loc Qty

Loc Code

ST291

378

119075

378

D2651-1

Manufactured

No

270

Each

709.0000

6

6

D2651-1

Plug

**

u 11/12/13

Location

Loc Qty

Loc Code

FP

709

57869

1

66445

10

69018

2

70839

2

71037

31

73827

663

D2651-3

Manufactured

No

270

Each

1,205.000

6

6

D2651-3

O-Ring

**

u 11/12/13

Location

Loc Qty

Loc Code

FP

1205

61962

12

73489

193

73828

1000

x 6

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
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NOTE: Date & initial all entries

Picklist Print

November-25-11 8:35:45 AM

Page 6

Work Order ID: 77067

77067

Parent Item: D206-642-151

D206-642-151

Parent Item Name: Replacement Skidtube

Start Date: 25/11/2011

Required Date: 09/12/2011

Start Qty: 1.00

Required Qty: 1.00

D3873-1

Manufactured No

280

Each

730.0000

14

14

D3873-1

Bushing

**

11/12/13

Location

Loc Qty

Loc Code

ST088

730

64760

1

68247

4

73829

19

73830

16

73832

400

75481

290

x14

D2646

Manufactured No

280

Each

229.0000

1

1

D2646

Aft Cap

**

11/12/13

Location

Loc Qty

Loc Code

FP002

212

73294

14

73825

198

FP004

8

68280

5

70945

1

71070

2

FP005

4

71038

4

FP006

5

62678

5

x1

D3805-041

Manufactured No

280

Each

0.0000

1

1

D3805-041

Wearplate Assembly Fwd, Low Gear

**

13 75149 (x1) 11/12/13

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
| | | | | | | | | |
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| | | | | | | | | |

NOTE: Date & initial all entries

Picklist Print

November-25-11 8:35:45 AM

Page 7

Work Order ID: 77067

77067

Parent Item: D206-642-151

D206-642-151

Parent Item Name: Replacement Skidtube

Start Date: 25/11/2011

Required Date: 09/12/2011

Start Qty: 1.00

Required Qty: 1.00

MS27039-1-08

Purchased

No

280

Each

1,633.000

2

2

MS27039-1-08

Screw

**

ul ul1213

Location

Loc Qty

Loc Code

ST291

1633

117423

115

118378

118

118910

400

119075

500

119109

500

x 2

MS21042L3

Purchased

No

280

Each

7,961.000

7

7

MS21042L3

Nut

**

ul ul1213

Location

Loc Qty

Loc Code

ST300

213

117441

16

117885

35

118451

5

118927

157

ST516

5994

119017

5994

ST518

1754

119075

1754

y 7

D3805-045

Manufactured

No

280

Each

5.0000

1

1

D3805-045

Wearplate Assembly Aft, Low Gear

**

B75496 (v1) ul ul1213

Location

Loc Qty

Loc Code

FP

5

73817

1

74896

1

74938

3

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
| | | | | | | | | |
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NOTE: Date & initial all entries

Picklist Print

November-25-11 8:35:45 AM

Page 8

Work Order ID: 77067

77067

Parent Item: D206-642-151

D206-642-151

Parent Item Name: Replacement Skidtube

Start Date: 25/11/2011

Required Date: 09/12/2011

Start Qty: 1.00

Required Qty: 1.00

AN960JD10L NAS1149D0332J Purchased

No

280

Each

0.0000

2

2

*AN960JD10L *

Washer

**

1118389 (x2) MU 11/12/13

AN3-37A Purchased

No

280

Each

1,924.000

7

7

AN3-37A

Bolt

**

MU 11/12/13

Location

Loc Qty

Loc Code

ST354

4

117619

4

ST518

1920

119086

1920

X7

NAS1149D0363J Purchased

No

280

Each

3,569.000

7

7

NAS1149D0363J

Washer

**

MU 11/12/13

Location

Loc Qty

Loc Code

ST019

16

117505

16

ST295

2921

119537

2921

ST298

632

117601

68

118077

1

118612

55

118968

508

X7

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

NOTE: Date & initial all entries

| ITEM | Qty -041 | Qty -043 | Part Number | Description |
|------|-------------|-------------|--------------|---------------------------------|
| 1 | X | | D3804-041 | SKIDTUBE ASSEMBLY, 206 A/B LOW |
| 2 | | X | D3804-043 | SKIDTUBE ASSEMBLY, 206 A/B HIGH |
| 5 | 1 | 1 | D2600-1-160 | EXTRUSION |
| 6 | 1 | 1 | D2646 | AFT CAP |
| 7 | 1 | 1 | D2647 | CAP |
| 8 | 19 | 20 | D2649 | CROSS BOLT SPACER |
| 9 | 6 | 8 | D2651-1 | PLUG |
| 10 | 6 | 8 | D2651-3 | O-RING |
| 11 | | 1 | D2654-3 | WEB |
| 12 | 1 | | D2654-1 | WEB |
| 13 | 1 | 1 | D2680-041 | NUT PLATE |
| 14 | 2 | 2 | D3286-1 | DOUBLER |
| 15 | 2 | 2 | D3286-3 | STUD |
| 21 | 2 | 2 | AN960JD10L | WASHER |
| 22 | 1 | 1 | AN960JD416 | WASHER |
| 23 | 2 | 2 | CCR264SS3-3 | RIVET |
| 24 | 2 | 2 | CR3212-4-03 | RIVET |
| 25 | 52 | 52 | CR3212-4-04 | RIVET |
| 26 | 2 | 2 | MS27039-1-08 | SCREW |
| 27 | 1 | 1 | MS27039-4-06 | SCREW |

NOTES

- 1) MATERIAL: N/A
- 2) FINISH: -CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
-POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 3) BLACK ANTI-SKID PAINT AS INDICATED TO 0.5 ABOVE LOCATION RIDGE PER DART QSI 005 4.4
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) UNITS: INCHES UNLESS OTHERWISE NOTED
- 6) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 7) IDENTIFICATION: NONE
- 8) WEIGHT: 12.5 lb
- 9) WELD PER DART QSI 004
- 10) BENDING: DAMAGE TOLERANCE ON FWD BEND:
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 5 INCHES ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP TO 0.020 DEEP IN THE BENT PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.
- 11) BOND WEB INTO OUTER TUBE WITH SIKAFLEX-241/-291 ADHESIVE PER DART QSI 015
- 12) INSERT D2651-1 PLUG C/W D2651-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE)

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 77067

M.L.J
11/11/25

RELEASED
UP 09.03.03
per ECN 09-536

| | | | |
|------------|-------------|----|----------|
| A | NEW ISSUE | MB | 08.07.07 |
| REV. | DESCRIPTION | BY | DATE |
| DESIGN | 93 | | |
| DRAWN | 93 | | |
| CHECKED | 93 | | |
| MFG. APPR. | 93 | | |
| APPROVED | 93 | | |
| DE APPR. | 93 | | |
| DATE | 08.07.07 | | |

DART AEROSPACE USA, INC
PORT HADLOCK, WA

DRAWING NO. D3804
TITLE SKIDTUBE ASSEMBLY, 206A/B

REV. A
SHEET 1 OF 5
SCALE NTS

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| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

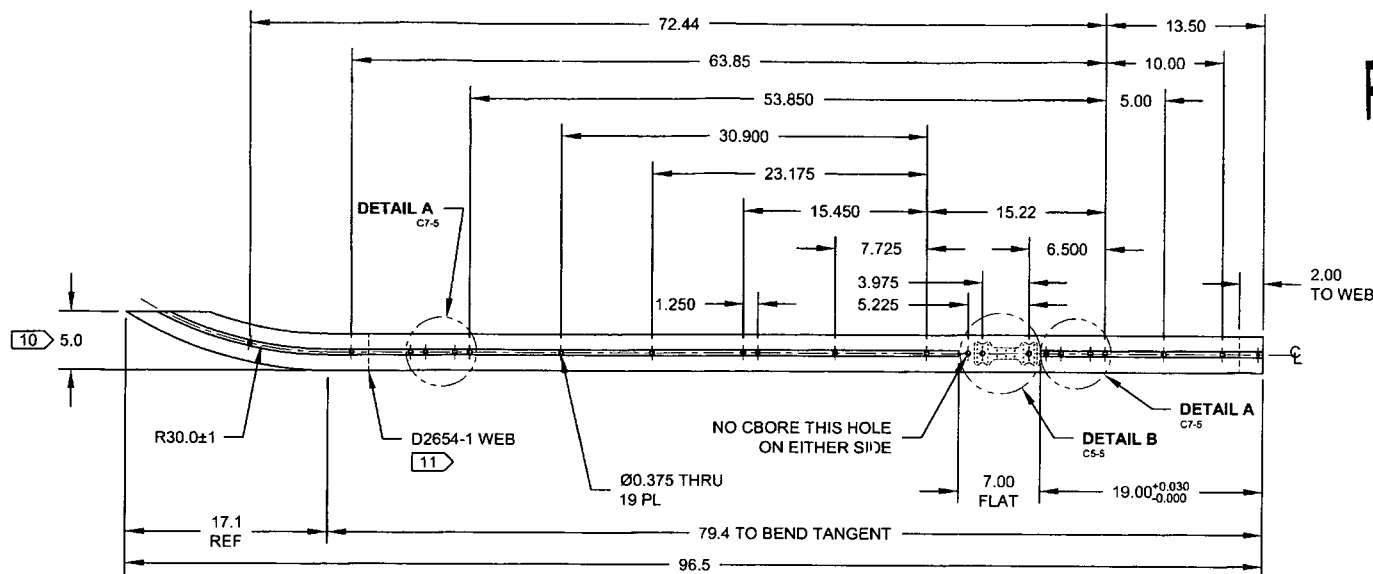
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
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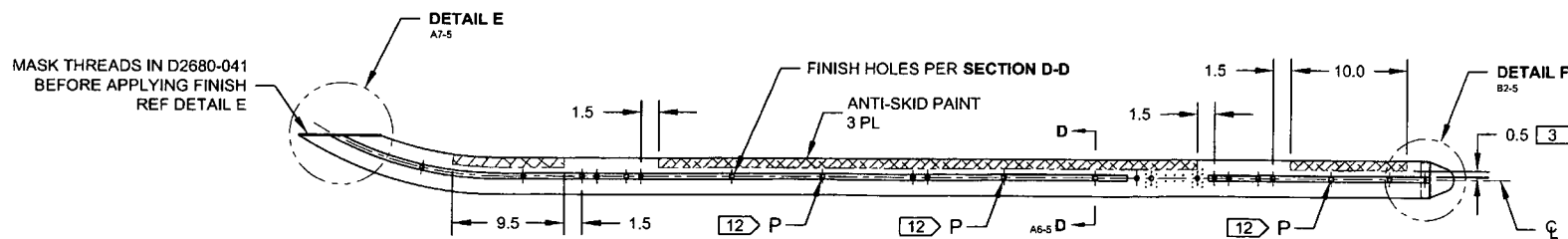
NOTE: Date & initial all entries

27067

RELEASED
09.03.03



D3804-041 BENDING/DRILLING DETAIL



D3804-041 ASSEMBLY/FINISHING DETAIL

| | | |
|------------|----------|--|
| DESIGN | 91 | DART AEROSPACE USA, INC |
| DRAWN | 91 | PORT HADLOCK, WA |
| CHECKED | 91 | DRAWING NO. REV. A |
| MFG. APPR. | 91 | D3804 SHEET 2 OF 5 |
| APPROVED | 91 | TITLE SCALE |
| DE APPR. | 91 | SKIDTUBE ASSEMBLY, 206A/B NTS |
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| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
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NOTE: Date & initial all entries

RELEASED
4 09.03.03



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|------------|----------|--|--------------|
| DESIGN | 99 | DART AEROSPACE USA, INC | |
| DRAWN | JP | PORT HADLOCK, WA | |
| CHECKED | JP | DRAWING NO. | REV. A |
| MFG. APPR. | JP | D3804 | SHEET 3 OF 5 |
| APPROVED | JP | TITLE | SCALE |
| DE APPR. | JP | SKIDTUBE ASSEMBLY, 206A/B .NTS | |
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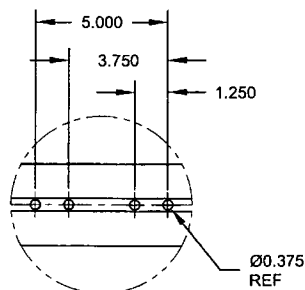
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
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| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
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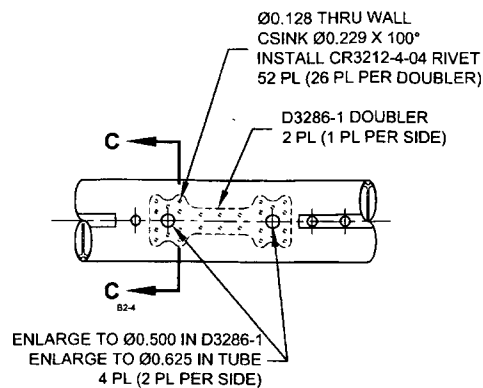
NOTE: Date & initial all entries

77067

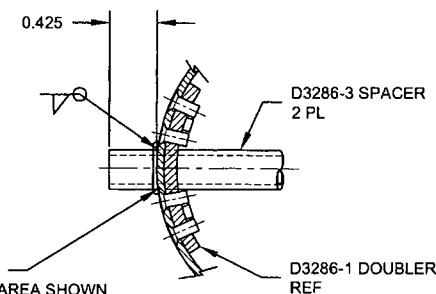
RELEASED
09.03.07



DETAIL A
SCALE NONE
D6-2
C2-2
D6-3
C2-3

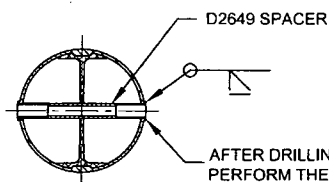


DETAIL B
SCALE NONE
C3-2
C3-3



- TO INSTALL D3286-1/3:
1. GRIND OFF FLANGE IN AREA SHOWN, FLUSH WITH OUTSIDE SURFACE OF ROUND TUBE
 2. LOCATE & DRILL D3286-1 DOUBLER USING DT3286-1T1
 3. ENLARGE HOLES IN D3286-1 TO Ø0.500
 4. ENLARGE HOLES IN TUBE TO Ø0.625 AND CHAMFER HOLE 0.03 X 45°
 5. RIVET D3286-1 TO TUBE
 6. INSERT D3286-3 SPACER
 7. WELD IN PLACE AND GRIND FLUSH

SECTION C-C
PARTIAL SECTION
SCALE NONE
C6-4



- AFTER DRILLING AND BENDING ASSEMBLY PERFORM THE FOLLOWING FOR Ø0.375 HOLES ONLY:
1. CHAMFER HOLE 0.03 X 45°
 2. INSERT D2649 SPACER
 3. WELD INTO PLACE AND GRIND FLUSH
 4. CBORE TO Ø0.313 X 0.75 DP (EXCEPT WHERE INDICATED)

SECTION D-D
FOR Ø0.375 HOLES ONLY
SCALE NONE
A4-2
A4-3

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|------------|----------|---|--------------|
| DESIGN | 97 | DART AEROSPACE USA, INC | |
| DRAWN | 97 | PORT HADLOCK, WA | |
| CHECKED | 97 | DRAWING NO. | REV. A |
| MFG. APPR. | 97 | D3804 | SHEET 4 OF 5 |
| APPROVED | 97 | TITLE | SCALE |
| DE APPR. | 97 | SKIDTUBE ASSEMBLY, 206A/B | NTS |
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| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
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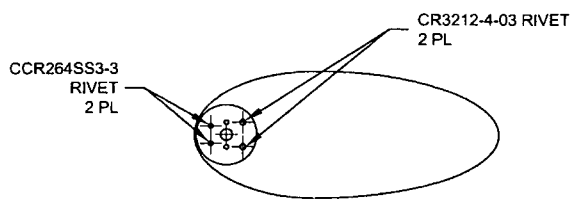
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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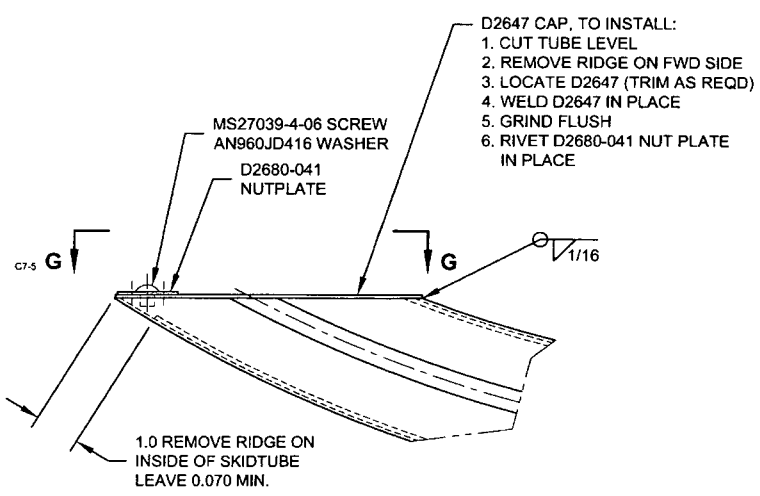
NOTE: Date & initial all entries

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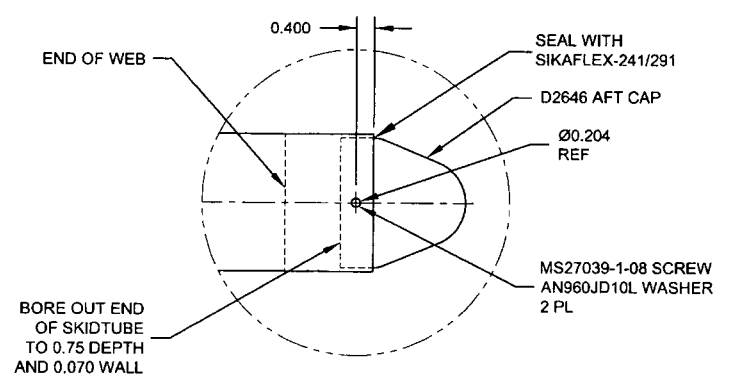
RELEASED
90 09.03.03



VIEW G-G
SCALE NONE
A7-5



DETAIL E
SCALE NONE
B7-2
B7-3



DETAIL F
SCALE NONE
B2-2
B2-3

| | | | |
|------------|----------|--|--------------|
| DESIGN | 90 | DART AEROSPACE USA, INC | |
| DRAWN | 1 | PORT HADLOCK, WA | |
| CHECKED | 90 | DRAWING NO. | REV. A |
| MFG. APPR. | 90 | D3804 | SHEET 5 OF 5 |
| APPROVED | 90 | TITLE | SCALE |
| DE APPR. | 90 | SKIDTUBE ASSEMBLY, 206A/B | NTS |
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| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
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NOTE: Date & initial all entries

NO. 274

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barclay Elliott
Job number: 75391
Part number: 206 642 151
Description: 206 skid tube
Welding Process: Tig[☒] Mig[]
Base material: Aluminum
Current: AC[] DC[]

TEST REQUIREMENTS AND RESULTS

Visual: pass[☒] fail[]
Penetration: pass[☒] fail[]

UNACCEPTABLE

Cracks: pass[☒] fail[]
Undercut: pass[☒] fail[]
Pin holes: pass[☒] fail[]
Overlap (cold lap): pass[☒] fail[]
Porosity (surface): pass[☒] fail[]
Coloration: pass[☒] fail[]

Qualifier Sal Hurm Date of Test Coupon 11-11-18

Welder Sal Hurm Date of Test Coupon 11-11-18

The above named individual is qualified in accordance with AWS D17.1.2001 to weld